Technical Finesse in Southeast Asia

Malaysia is not only considered as the emerging market, but also as the tenth largest furniture exporter worldwide. Therefore the local producers have to face the same challenges as their competitors in Europe. The company named Versalink from Kuala Lumpur produces office furniture in a mid to high-range price segment. Versalink has developed, together with experts from Schuler Consulting, a concept to consolidate the requirements of mass production and the ever-widening interest of customized production. In the third edition of the HK-series "international Furniture Production", the consultant Björn Henseler will sum up some of the important facts.

Fotos: Schuler Consulting

On the way to the customized production Versalink and Schuler defined together different development steps. Seen in the picture is the transport via Roller Conveyor.

As previously seen years ago in China, the requirements of customization in furniture production also increased in Southeast Asia. Nevertheless the company's organization of mass production is still grounded in those factories. Versalink produces since 1991 – it all started with a small carpentry for the local Malaysian market, since 1993 the company began to export in big scales. In September 2014 they've made a big step by listing at the Singapore stock exchange. This step also spurs Versalink to generate new orders. Beside the big projects the customized furniture became more and more to a must-have. The company's organization of an individual production shows big differences compared to that of the mass production. More flexible machine technologies and enormous production planning and scheduling require nifty IT-Solutions and a change of thoughts in every department.

Schuler Consulting GmbH, as a part of the HOMAG Group, is capable not only to examine the products carefully, but also to analyze the productions and company's organization. Thereby the topics e.g. production philosophy and control, get under a closer look. Schuler Consulting's current project, Versalink and HOMAG Asia, has started with the analysis, which showed the challenges very fast. During the batch size analysis the challenges became very clear, according to that the mass production still reflects a major part of the production volume.

There are also customized orders existing that take a lot of time in the more or less manual operations scheduling. However, the high customer pressure on short-term delivery deadlines and resulting quick orders lead the mass production concept out of balance. Out of this analysis it was possible to develop a basic concept in a small time frame, which distributes different products on individual product lines. In a later project stage a detailed layout with various development steps for immediate changes resulted from the basic concept.

The result at Versalink is a production that is now able to produce the required furniture of various categories on four clearly defined production lines with the former existing machines.

The optimized material flow eases the transparency and the transportation within the production and also reduced the costs of logistics. While the more or less inflexible machines are still used in an optimized design for the mass production, the new integrated flexible production line takes care of customized office furniture, demising wall systems and quick-orders.

The orders initially are produced on this production line and in a secondary step - according to the requirements – complemented with an intermediate bearing, which adds the common default parts. Previously each part had to be manually redrawn. In mass production, the ratio of working preparation compared to batch size is still as scheduled. The efforts of batch size one order quickly turned out as a bottleneck process in business processes.

To technically realize a flexible production, the HOMAG machines were assigned for the customized production. Both the data preparation with different post - processes as well as the intercommunication of the HOMAG machines provide an elaborated and already established system. This keeps the adjustment expenses on behalf of the IT-system side to a minimum.

Flexible drilling machines will be added to the production after the modification. This expansion step should support the factory in case of output figures increase of customized production. After the planning phase Schuler Consulting will support Versalink with the implementation of this layout. To realize the layout step-by-step it's necessary to coordinate the machine displacement wisely. The sharper focus is set on the maintenance of the output figures.

Björn Henseler
The author is working for Schuler Consulting as a Consultant since 2011.

That´s what the factory looked like before the restructuring of the shopfloor. Right now the existing and new machines are being set-up to operate on clearly defined production lines. New drilling machines shall increase the flexibility for the future.

The Schuler Consulting experts have developed a specific production concept to ensure this maintenance, to keep the capacity constant during the relocation. At this case it is about the capacities of the production planning and scheduling, the dispatching of orders on the correct production line, the optimization of the production preparation and the inherent requirements on IT-Systems e.g. CAD/CAM, ERP- and MES-Systems. The cutting optimization and the beginning of an automatized production already decrease the effort in office and production.

To master all these tasks reliably, it's very necessary for all Versalink and participants of Schuler Consulting employees to be in close contact with the suppliers. Be it in the machine technology, the installation facilities, compressed air and electricity or in the software department. To fulfill the tasks at its best and to prepare the factory for the future, it was essential to well-match the ERP- and CAD/CAM Systems. The involved persons of Schuler Consulting are highly sanguine about that efforts in Southeast Asia will prove to be successful.

During the work with experienced Consults of Schuler Consulting the companies are able to enlarge their perception and get away from the so called "tunnel vision", relating to solving potential problems and considering new ways and means.